

**CLAIMS**

1. Composite article comprising a substrate (10), a reflective layer (20) and a titanium dioxide-based photocatalytic layer (40), said article being characterised in that the reflective layer (20) is composed of an oxidised or nitrided metal such that the total light reflection integrated over the entire visible range of the composite article is in the range of between 40 and 75%.

2. Article according to claim 1, characterised in that the oxidised or nitrided metal of the reflective layer (20) is in an under-stoichiometric state.

3. Article according to any one of claim 1 or 2, characterised in that the layers are disposed on the same face of the substrate.

4. Article according to any one of claim 1 or 2, characterised in that the reflective layer (20) is disposed on the rear face and the photocatalytic layer (40) on the front face.

5. Article according to any one of the preceding claims, characterised in that it comprises a barrier layer (30) between the photocatalytic layer (40) and the substrate (10).

6. Article according to the preceding claim, characterised in that the barrier layer (30) is composed of silicon oxide.

7. Article according to any one of the preceding claims, characterised in that the metal of the reflective layer (20) is selected from Cr, Ti, Al, Si, Zr and the alloys of these metals.

8. Article according to any one of the preceding claims, characterised in that it comprises a surface layer (50) on the front face.

9. Article according to the preceding claim, characterised in that the surface layer (50) is composed of silicon oxide.

10. Article according to any one of the preceding claims, characterised in that the thickness of the reflective layer (20) is in the range of between 20 and 100 nm and preferably between 30 and 60 nm.

11. Article according to any one of the preceding claims, characterised in that the thickness of the photocatalytic layer (40) is in the range of between 20 and 120 nm and preferably between 40 and 75 nm.

12. Article according to any one of the preceding claims, characterised in that the thickness of the surface layer (50) is in the range of between 2 and 10 nm and preferably between 3 and 6 nm.

5 13. Article according to any one of the preceding claims, characterised in that the thickness of the barrier layer (30) is in the range of between 10 and 80 nm and preferably between 20 and 60 nm.

14. Article according to any one of the preceding claims, characterised in that the light reflection integrated over the entire visible range lies between 45 and 70%.

10 15. Article according to any one of the preceding claims, characterised in that when the reflected colour is neutral (i.e. when the coefficients  $a^*$  and  $b^*$  of the Lab system are between -5 and 5), the reflection factor lies between 55 and 75%, preferably between 60 and 72%, and when the reflected colour is within the blue range, i.e.  $a^*$  lies between -10 and 0 and  $b^*$  is less than -10, the reflection  
15 factor lies between 40 and 55%, preferably between 40 and 50%.

16. Process for preparing a composite article, characterised in that it comprises the following steps:

- deposit of a lightly oxidised or nitrided metal layer (20) on one or other of the faces of a support (10) by cathodic magnetron sputtering in a controlled  
20 reactive atmosphere;
- deposit of a photocatalytic layer (40) on the front face of the support by cathodic magnetron sputtering;
- thermal treatment at a temperature in the range of between 300 and 500°C, in particular between 350 and 450°C, for a period that may vary from 15 min  
25 to 6 hours.

17. Process according to Claim 15, characterised in that it comprises a step of depositing a  $\text{SiO}_2$  barrier layer (30) by cathodic sputtering prior to depositing the photocatalytic layer (40).

30 18. Process according to either one of Claims 15 or 16, characterised in that it comprises a step of depositing a fine hydrophilic surface layer (50) by cathodic magnetron sputtering.

19. Use of the article according to any one of Claims 1 to 14 or product according to any one of Claims 15 to 17, as rear-view mirror of a motor vehicle.